Drainage Assessment

Aberdeen Market

October 2021

FAIRHURST

CONTROL SHEET

CLIENT: **Aberdeen City Council**

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REPORT TITLE: **Drainage Assessment**

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Contents

Guidance

This drainage assessment is prepared in accordance with the guidance given in the following documents:-

- Water Assessment and Drainage Assessment Guide – Working SUDS Party.
- Planning Advice Note (PAN) 61: Planning and Sustainable Urban Drainage Systems, issued by the Scottish Executive Development Department, July 2001.
- The SUDS Manual – (CIRIA C753).
- SEPA's Regulatory Method (WAT-RM-08) Sustainable Urban Drainage Systems
- Sewers for Scotland, Fourth Edition, 2019

Development Proposals

Aberdeen City Council proposes to redevelop the site of the existing Aberdeen Market to form a new market, public and retail spaces.

The existing market building is to be demolished, allowing the construction of a new building.

The site is located at OS Ref NJ9417806162 and is bound by existing public highways.

Please refer to Halliday Fraser Munro drawings (12231/AMKT series).

Existing Drainage

Private Drainage

The existing building is currently drained to the existing public combined sewer network. Surface water flows are drained at an unrestricted rate to the combined system.

Existing private drainage is to be removed as part of the demolition works. All underground drainage is to be removed or abandoned.

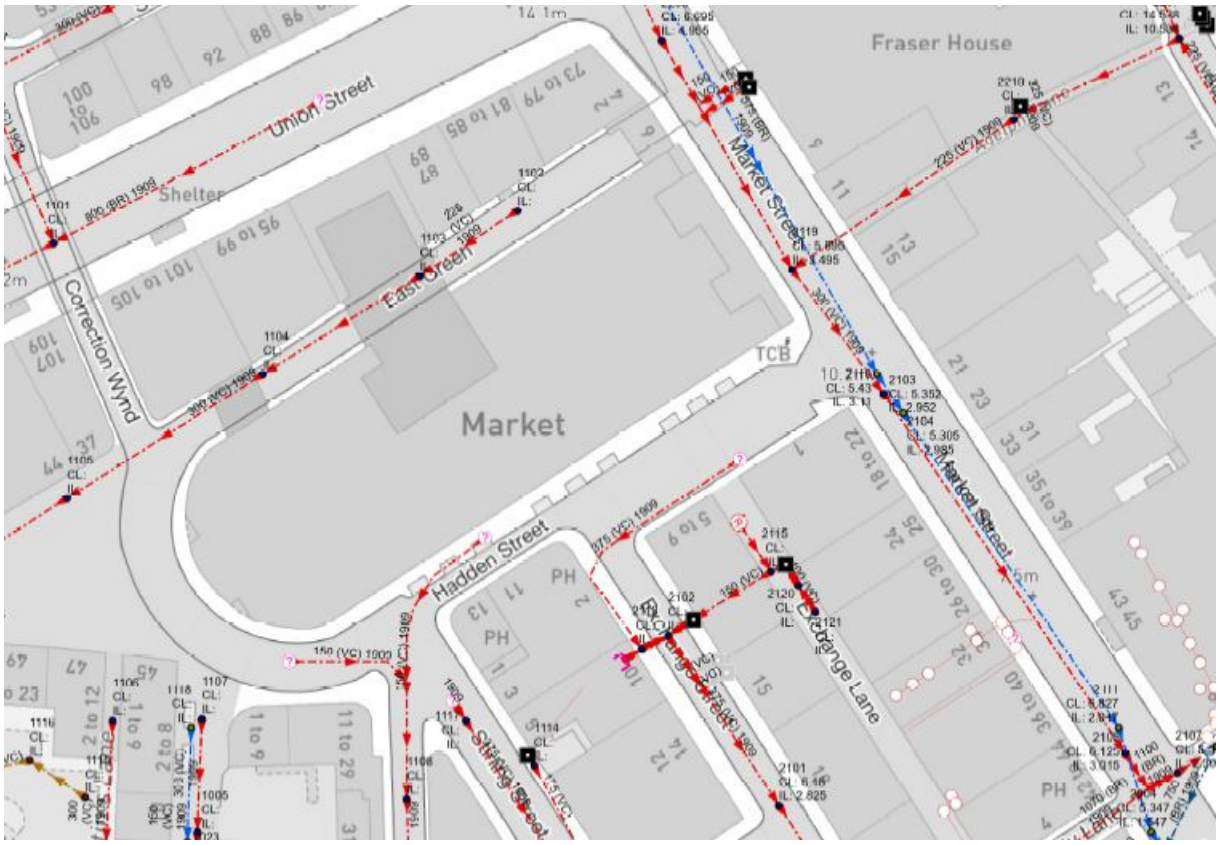
Public Sewers

There are existing combined sewers within East Green & Hadden Street, discharging to the south and west.

There are also surface water and combined sewers within Market Street, draining to the southeast.

Through dialogue with Aberdeen City Council and Scottish Water we are aware of some historic instances of sewer flooding at Carnegie's Brae, during heavy rainfall events. Development levels will be set, with due cognisance for potential overland flow routes.

We are aware Scottish Water plan to undertake sewer upgrade works at Exchange Street, Trinity Quay and Regent Quay, together with other sewers within this area of the city.



Scottish Water Geographic Information System (GIS) extract

Proposed Foul Drainage

Foul flows from the proposed building will discharge to new gravity drains, which will discharge to the existing combined sewer network via a disconnection chamber.

Discharge to the sewer network is currently being reviewed with Scottish Water and in subject to finalised agreement.

The connection to the sewer is to be made in accordance with Sewers for Scotland 4th Edition.

Proposed Surface Water Drainage

Building Roof and Hard Landscaping

Surface water run-off from the building roof and private hard landscaping areas will be drained via downpipes to the below ground drainage within the site. The new gravity drains will discharge to the new below ground surface water attenuation tank, which will drain (via rising main) at a restricted rate, to the existing sewer network.

The connection to the sewer is to be made in accordance with Sewers for Scotland 4th Edition.

Hydraulic Control

Attenuation volume for the site will be provided by a below ground attenuation tank, which will contain volumes generated by the 200 year critical rainfall event (+30% CC).

As part of the detailed drainage design for the development, sensitivity tests to assess flood risk from the drainage system will be carried out for rainfall events up to and including the 200 year, plus climate change, rainfall return event. Site levels will be set in order to prevent water entering buildings or restricting access for emergency vehicles.

The option of discharging surface water at an unrestricted rate, to the existing surface water sewer within Market Street, is currently being reviewed with Scottish Water.

Maintenance

All drainage within the site up to the disconnection chambers will remain private and be maintained by the site owner in accordance with the maintenance schedule and manufacturer's guidance.

Construction Phase SUDS

A method statement, detailing how surface water arising during construction will be dealt with, will be prepared by the contractor for approval prior to commencement of works on site.

During the development of the site a surface water management strategy will be prepared for each individual construction phase. This strategy will be submitted to the Planning Authority for their approval prior to the commencement of works.

The surface water management strategy will be based on the Contractor's Method Statement and will incorporate the following measures to prevent the surface water run-off from the construction works discharging direct to the watercourses.

- Localised interception of surface water run-off. Temporary ditches or channels around the area of works would provide this. Check dams or silt traps can be provided to encourage the settlement of silt.
- Protection of permanent drainage system. Surface water run-off from construction areas will, where practicable, not be drained to the permanent drainage system. This will prevent silt and other construction debris from building up in the system. Where the use of the permanent system cannot be avoided then the system will need to be thoroughly cleaned on the completion of the construction phase.

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